

**SUBCHAPTER B : LAND APPLICATION FOR BENEFICIAL USE
AND STORAGE AT BENEFICIAL USE SITES**

§312.41. Applicability.

(a) Application to land. This subchapter applies to any person who prepares sewage sludge that is applied to the land, to any person who applies sewage sludge to the land, to sewage sludge applied to the land, and to the land on which sewage sludge is applied.

(b) Bulk sewage sludge.

(1) Section 312.42 of this title (relating to General Requirements) and §312.44 of this title (relating to Management Practices) do not apply when bulk sewage sludge is applied to the land if the bulk sewage sludge meets the metal concentrations in §312.43(b)(3) of this title (relating to Metal Limits), the Class A pathogen requirements in §312.82(a) of this title (relating to Pathogen Reduction), and one of the vector attraction reduction requirements in §312.83(b)(1)-(8) of this title (relating to Vector Attraction Reduction).

(2) The executive director may apply any or all of §312.42 and §312.44 of this title to the bulk sewage sludge described in this subsection on a case-by-case basis after determining that the general requirements or management practices are needed to protect public health and the environment from any reasonably anticipated adverse effect that may occur from any metal in the bulk sewage sludge.

(c) General Requirements for Bulk Derived Materials.

(1) Section 312.42 of this title and the management practices in §312.44 of this title do not apply when a bulk material derived from sewage sludge is applied to the land if the derived bulk material meets the metal concentrations in §312.43(b)(3) of this title, the Class A pathogen requirements in §312.82(a) of this title (relating to Pathogen Reduction), and one of the vector attraction reduction requirements in §312.83(b)(1)-(8) of this title (relating to Vector Attraction Reduction).

(2) The executive director may apply any or all of §312.42 and §312.44 of this title to the bulk material described in this subsection on a case-by-case basis after determining that the general requirements or management practices are needed to protect public health and the environment from any reasonably anticipated adverse effect that may occur from any metal in the bulk sewage sludge.

(d) Special Requirements for Certain Bulk Derived Materials. The requirements in this subchapter may not apply when a bulk material derived from sewage sludge is applied to the land; if the sewage sludge from which the bulk material is derived meets the metal concentrations in §312.43(b)(3) of this title the Class A pathogen requirements in §312.82(a) of this title, and one of the

vector attraction reduction requirements in §312.83(b)(1)-(8) of this title. The executive director may apply any or all of §312.42 and §312.44 of this title to the bulk derived material on a case-by-case basis after determining that the general requirements or management practices are needed to protect public health and the environment from any reasonably anticipated adverse effect that may occur from any metal in the sewage sludge.

(e) Bagged sludge. Sewage sludge sold or given away in a bag or other container for application to the land. Section 312.42 and §312.44 of this title may not apply when sewage sludge is sold or given away in a bag or other container for application to the land if the sewage sludge sold or given away in a bag or other container for application to the land meets the metal concentrations in §312.43(b)(3) of this title, the Class A pathogen requirements in §312.82(a) of this title, and one of the vector attraction reduction requirements in §312.83(b)(1)-(8) of this title.

(f) Bagged derived materials. Section 312.42 and §312.44 of this title may not apply when a material derived from sewage sludge is sold or given away in a bag or other container for application to the land if the derived material meets the metal concentrations in §312.43(b) of this title, the Class A pathogen requirements in §312.82(a) of this title, and one of the vector attraction reduction requirements in §312.83(b)(1)-(8) of this title.

(g) Bagged materials. The requirements in this subchapter may not apply when a material derived from sewage sludge is sold or given away in a bag or other container for application to the land if the sewage sludge from which the material is derived meets the metal concentrations in §312.43(b)(3) of this title, the Class A pathogen requirements in §312.82(a) of this title, and one of the vector attraction reduction requirements in §312.83(b)(1)-(8) of this title.

Adopted September 26, 1995

Effective October 13, 1995

§312.42. General Requirements.

(a) No person shall apply sewage sludge, including domestic septage, to the land except in accordance with the requirements in this subchapter.

(b) No person shall apply sewage sludge that does not meet the metal concentrations in §312.43(b)(3) of this title (relating to Metal Limits) to land where any of the cumulative metal loading rates in §312.43(b)(2) of this title have been reached.

(c) No person shall apply domestic septage to agricultural land, forest, or a reclamation site during a 365 day period where the annual application rate in §312.43(c) of this title has been reached.

(d) The person who applies sewage sludge, including domestic septage, to the land shall obtain information needed to comply with the requirements in this subchapter.

(e) If a treatment works provides bulk sewage sludge to a person who applies the bulk sewage

sludge to the land, the treatment works shall provide the person who applies the bulk sewage sludge to the land notice and necessary information to comply with the requirements in this subchapter.

(f) If a treatment works provides bulk sewage sludge to a person who prepares the bulk sewage sludge for application to the land, the treatment works shall provide the person who prepares the bulk sewage sludge for application to the land notice and necessary information to comply with the requirements in this subchapter.

(g) The person who applies bulk sewage sludge to the land shall provide the owner or lease-holder of the land on which the bulk sewage sludge is applied notice and necessary information to comply with the requirements in this subchapter.

(h) If a treatment works provides sewage sludge to a person who prepares the sewage sludge for sale or give away in a bag or other container for application to the land, the treatment works shall provide the person who prepares the sewage sludge for sale or give away in a bag or other container for application to the land notice and information to comply with the requirements in this subchapter.

(i) The applicant shall determine the concentration of regulated metals in accordance with §312.12(a)(1)(E) of this title (relating to Registration of Land Application Activities) and demonstrate to the satisfaction of the commission that the proposed cumulative metal loading will result in a non-toxic condition or reduce the toxicity of the existing soil.

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§312.43. Metal Limits.

(a) Sewage sludge.

(1) Bulk sewage sludge or sewage sludge sold or given away in a bag or other container shall not be applied to the land if the concentration of any metal in the sewage sludge exceeds the ceiling concentration for the metal in Table 1 of subsection (b) of this section.

(2) If the bulk sewage sludge is applied to agricultural land, forest, a public contact site, or a reclamation site, either:

(A) the cumulative loading rate for each metal shall not exceed the cumulative metal loading rate for the metal in Table 2 of subsection (b) of this section, or

(B) the concentration of each metal in the sewage sludge shall not exceed the concentration for the metal in Table 3 of subsection (b) of this section.

(3) If bulk sewage sludge is applied to a lawn or a home garden, the concentration of each metal in the sewage sludge shall not exceed the concentration for the metal in Table 3 of subsection (b) of this section.

(4) If sewage sludge is sold or given away in a bag or other container for application to the land, either:

(A) the concentration of each metal in the sewage sludge shall not exceed the concentration for the metal in Table 3 in subsection (b) of this section; or

(B) the product of the concentration of the each pollutant in the sewage sludge and the annual sludge application rate for the sewage sludge shall not cause the annual metal loading rate for the metal in Table 4 of subsection (b) of this section to be exceeded. The procedure used to determine the annual whole sludge application rate is presented in §312.49 of this title (relating to Appendix A - Procedure to Determine the Annual Whole Sludge Application Rate for a Sewage Sludge).

(b) Metal concentrations and loading rates - sewage sludge.

(1) Ceiling concentrations. (Figure 1: §312.43(b)(1))

Figure 1: 30 TAC §312.43 (b)(1)

TABLE 1 - METAL CEILING CONCENTRATIONS

Metal	Concentration (Milligrams per kilogram)*
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

* Dry weight basis

(2) Cumulative metal loading rates. (Figure 2: §312.43(b)(2))

Figures 2: 30 TAC §312.43 (b)(2)

TABLE 2 - CUMULATIVE Metal LOADING Rate

Metal	Cumulative Metal Loading	
	(kilograms per hectare)*	(pounds per acre)*
Arsenic	41	36
Cadmium	39	35
Chromium	3000	2677
Copper	1500	1339
Lead	300	268
Mercury	17	15
Molybdenum	Monitor	Monitor
Nickel	420	375
Selenium	100	89
Zinc	2800	2500

* Dry weight basis

(3) Metal concentrations. (Figure 3: §312.43(b)(3))

(Figure 3: 30 TAC §312.43 (b)(3))

TABLE 3 - METAL CONCENTRATIONS

Metal	Concentration	
	(Milligrams per kilogram)*	
Arsenic	41	
Cadmium	39	
Chromium	1200	
Copper	1500	
Lead	300	
Mercury	17	
Molybdenum	Monitor	
Nickel	420	
Selenium	36	
Zinc	2800	

* Dry weight basis

(4) Annual Metal loading rates. (Figure 4: §312.43 (b)(4))

Figure 4: 30 TAC §312.43 (b)(4)

TABLE 4 - ANNUAL METAL LOADING RATES

Metal	Annual Metal Loading Rate**	
	(kilograms per hectare)* (pounds per acre)*	
Arsenic	2.0	1.8
Cadmium	1.9	1.7
Chromium	150.0	134.0
Copper	75.0	67.0
Lead	15.0	13.0
Mercury	0.85	0.76
Molybdenum	Monitor	Monitor
Nickel	21.0	18.7
Selenium	5.0	4.5
Zinc	140.0	125.0

* Dry weight basis

** Per 365 day period

(c) Domestic Septage. The annual application rate for domestic septage applied to agricultural land, forest, or a reclamation site shall be equal to or less than the annual application rate calculated using equation 1. (See Figure 5: §312.43(c))

Figure 5: 30 TAC §312.43 (c)

$$AAR = \frac{N}{0.0026} \quad (1)$$

Where:

AAR = Annual application rate in gallons per acre per 365 day period.

N = Amount of nitrogen in pounds per acre per 365 day period needed by the crop or vegetation grown on the land.

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§312.44. Management Practices.

(a) Bulk sewage sludge shall not cause or contribute to the harm of a threatened or endangered species of plant, fish, or wildlife or result in the destruction or adverse modification of the critical habitat of a threatened or endangered species after application to agricultural land, forest, a public contact site, or a reclamation site.

(b) Bulk sewage sludge shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow-covered so that the bulk sewage sludge enters a wetland or other waters in the state, except as provided in a permit issued pursuant to Chapter 305 of this title (relating to Consolidated Permits) or §404 of the Clean Water Act ("CWA").

(c) Distance to Surface Waters.

(1) Unless the sewage sludge is incorporated into the soil within 48 hours of application and a vegetated cover is established between the application area and all adjacent surface waters, bulk sewage sludge not meeting Class A pathogen requirements and applied to agricultural land, forest, or a reclamation site shall maintain a buffer zone of at least 200 feet from surface waters.

(2) In cases where sludge is both incorporated into the soil within 48 hours of application and a vegetated cover is established between the application area and all adjacent surface waters, bulk sewage sludge not meeting Class A pathogen requirements and applied to agricultural land, forest, or a reclamation site shall maintain a buffer zone of at least 33 feet from surface waters.

(d) When bulk sewage sludge not meeting Class A pathogen requirements is applied to agricultural land, forest, or a reclamation site, the following buffer zones shall be established for each application area, unless otherwise specified by the commission:

(1) private water supply well, 150 feet;

(2) public water supply well, intake, public water supply spring or similar source, public water supply treatment plant, or public water supply elevated or ground storage tank, 500 feet;

(3) Solution channel, sinkhole, or other conduit to groundwater, 200 feet;

(4) Established school, institution, business, or occupied residential structure, 750 feet;

(5) Public right of way, 50 feet;

(6) Irrigation conveyance canal, 10 feet;

(7) Property boundary, 50 feet;

(e) Any of the buffers established in §312.44(d)(4) and (7) of this title may be reduced or eliminated if an agreement to that effect is signed by the owners of the established school, institution, business, occupied residential structure or adjacent property and this documentation is provided to the executive director prior to issuance of a registration. Reductions or elimination of buffer zones in an existing registration by agreement of the affected landowner will be considered a minor amendment of the registration.

(f) Bulk sewage sludge shall be applied to agricultural land, forest, or a public contact site at a whole sludge application rate that is equal to or less than the agronomic rate for the agricultural land, forest, or public contact site on which the bulk sewage sludge is applied. On a case-by-case basis, a whole sludge application rate may exceed the agronomic rate for a time application to a reclamation site.

(g) Bulk sewage sludge shall be applied to a reclamation site at a whole application rate that is equal to or less than the agronomic rate for the reclamation site on which the bulk sewage sludge is applied, unless otherwise specified by the commission.

(h) Ground Water Protection Measures.

(1) Seasonal high ground water table shall be not less than three (3) feet below the treatment zone for soils with moderate or slower permeability (less than two inches per hour).

(2) Seasonal high ground water table shall be not less than four (4) feet below the treatment zone for soils with moderately rapid or rapid permeability (greater than two inches per hour and less than twenty inches per hour).

(3) Seasonal generally refers to a ground water table which may be perched on a less permeable soil or geologic unit and fluctuates with seasonal climatic variation or which occurs in a soil or geologic unit as a variation in saturation due to seasonal climatic conditions and is identified as such in a published soil survey report or similar document.

(4) Application of sludge to land having soils with greater permeability and with higher ground water tables will be considered on a case-by-case basis, after consideration of soil pH, metal loadings onto the soil, soil buffering capacity, or other protective measures to prevent ground water contamination.

(i) Sludge shall be applied by a method and under conditions that prevent runoff of sewage sludge beyond the active application area and protect the quality of the surface water and the soils in the unsaturated zone.

(1) Sludge shall be applied uniformly over the surface of the land.

(2) Sludge shall not be applied to areas where permeable surface soils are less than 2 feet thick. The executive director will consider sites with thinner permeable surface soils, on a case-by-case basis.

(3) Sewage sludge shall not be applied during rainstorms or during periods in which surface soils are water-saturated.

(4) Sludge shall not be applied to areas having topographical slopes in excess of eight percent (8%). On a case-by-case basis, the executive director will consider sites with steeper slopes when runoff controls are proposed and utilized, incorporation of sewage sludge into the soil occurs, or for certain reclamation projects.

(5) Where runoff of sludge from the active application area is evident, the operator shall cease further sludge application until the condition is corrected.

(6) Sewage sludge shall not be applied under provisions of this section on land within a designated floodway.

(j) Either a label shall be affixed to the bag or other container in which sewage sludge is sold or given away for application to the land or an information sheet shall be provided to the person who receives sewage sludge sold or given away in a other container for application to the land. The label or information sheet shall contain the following information:

(1) the name and address of the person who prepared the sewage sludge for sale or give away in a bag or other container for application to the land;

(2) a statement that prohibits the application of the sewage sludge to the land except in accordance with the instructions on the label or information sheet;

(3) the annual whole sludge application rate for the sewage sludge that does not cause the annual metal loading rates in §312.43 (b)(4) (Table 4) of this title to be exceeded.

(k) Nuisance Controls.

(1) A land application site location shall be selected and the site operated in a manner to prevent public health nuisances.

(2) Sewage sludge debris must be prevented from blowing or running off site boundaries or into surface waters.

(3) If necessary or when significant nuisance conditions occur, the operator shall:

(A) Minimize dust migration from the site and access roadways;

(B) Minimize objectionable odors through incorporation of sewage sludge into the soil or by taking some other type of corrective action.

(l) A registration for the beneficial use of sewage sludge shall specify the soil testing requirements for each application area.

(1) The testing frequency shall be in accordance with a plan proposed by the registrant in the application, which takes into account common agricultural methods of determining cover crop nutrient needs, soil pH, phytotoxicity, and concentrations of metals regulated by this chapter.

(2) No registration shall require soil testing of metals regulated by this chapter, at a frequency greater than once per five years or prior to submittal of a renewal application for a beneficial use site. Soil testing for metals regulated by this chapter shall not be required for portions of the registration site where sewage sludge has not been applied since the last soil metals testing was performed.

(3) Paragraph (2) of this subsection does not apply if the executive director becomes aware of circumstances warranting increased monitoring of metals regulated by this chapter, in order to address sites where metal loading into the soil is a threat to human health or environmental quality.

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§312.45. Operational Standards - Pathogens and Vector Attraction.

(a) Pathogens.

(1) The Class A pathogen requirements in §312.82(a) of this title (relating to Pathogen Reduction) or Class B pathogen requirements §312.82(b) of this title shall be met if bulk sewage sludge is applied to agricultural land, forest, a public contact site, or a reclamation site.

(2) The Class A pathogen requirements in §312.82(a) of this title shall be met if bulk sewage sludge is applied to a lawn or a home garden.

(3) The Class A pathogen requirements in §312.82(a) of this title shall be met if sewage sludge is sold or given away in a bag or other container for application to the land.

(4) The requirements in §312.82(c) of this title shall be met if domestic septage is applied to agricultural land, forest, or a reclamation site.

(b) Vector attraction reduction.

(1) One of the vector attraction reduction requirements in §312.83(b)(1)-(10) of this title (relating to Vector Attraction Reduction) shall be met if bulk sewage sludge is applied to agricultural land, forest, a public contact site, or a reclamation site.

(2) One of the vector attraction reduction requirements in §312.83(b)(1)-(8) of this title shall be met if bulk sewage sludge is applied to a lawn or a home garden.

(3) One of the vector attraction reduction requirements in §312.83(b)(1) - (8) of this title shall be met if sewage sludge is sold or given away in a bag or other container for application to the land.

(4) The vector attraction reduction requirements in §312.83(b)(12) of this title shall be met if domestic septage is applied to agricultural land, forest, or a public contact site.

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§312.46. Frequency of Monitoring.

(a) Sewage sludge (other than domestic septage).

(1) The frequency of monitoring for the metals listed in §312.43(b) (1)-(4) of this title (relating to Metal Limits); the pathogen density requirements in either §312.82(a) or (b)(1)(C) and (b)(2) of this title (relating to Pathogen Reduction); and vector attraction reduction requirements in §312.83(b)(1)-(8) of this title (relating to Vector Attraction Reduction) are defined in Table 5. (See Figure 6: §312.46(a)(1))

Figure 6: 30 TAC §312.46 (a)(1)

TABLE 5 - FREQUENCY OF MONITORING - LAND APPLICATION

Amount of sewage sludge* (metric tons per 365 day period)	Frequency
0 to less than 290	once per year
290 to less than 1,500	once per quarter
1,500 to less than 15,000	once per 60 days
15,000 or greater	once per month

* Either the amount of bulk sewage sludge applied to the land or the amount of sewage sludge received by a person who prepares the sewage sludge for sale or give away in a bag or other container for application to the land - dry weight basis.

(2) After the sewage sludge has been monitored for two years at the frequency shown in subsection 1 of this section (Table 5), the executive director may reduce the frequency of monitoring for pollutant concentrations and for the pathogen density requirements, but in no case shall the frequency of monitoring be less than once per year when sewage sludge is applied to the land. A reduction in monitoring will be allowed after agency review of a significant data set of sample results and where the city or cities generating the sewage sludge have in place a satisfactory and enforceable pretreatment program.

(3) After the sewage sludge has been monitored for two years at the frequency shown in subsection (1) of this section (Table 5), the executive director may increase the frequency of monitoring for pollutant concentrations and for the pathogen density requirements. An increase in monitoring will be required after agency review of a significant data set of sample results and where high pollutant or pathogen values are present in sewage sludge generated.

(b) Domestic septage applied to agricultural land, forest, or a reclamation site shall be monitored for the pathogen reduction requirements in §312.82(c) of this title (relating to Pathogen Reduction) and the vector attraction reduction requirements in §312.83(b)(12) of this title (relating to Vector Attraction Reduction).

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§312.47. Recordkeeping.

(a) Sewage sludge.

(1) The person who prepares the sewage sludge in §312.41(b)(1) or in §312.41(e) of this title (relating to Applicability) shall develop the following information and shall retain the information for five years:

(A) the concentration of each metal listed in §312.43 (3) of this title (relating to Metal Limits) in the sewage sludge;

(B) the following certification statement: "I certify, under penalty of law, that the Class A pathogen requirements in 30 TAC §312.82(a) and the vector attraction reduction requirement in (insert one of the vector attraction reduction requirements in §312.83(b)(1)-(8)) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.";

(C) a description of how the Class A pathogen requirements in §312.82(a) of this title (relating to Pathogen Reduction) are met; and

(D) a description of how one of the vector attraction reduction requirements in §312.83(b)(1)-(8) of this title (relating to Vector Attraction Reduction) is met.

(2) The person who derives the material in §312.41(c)(1) or in §312.41(f) of this title (relating to Applicability) shall develop the following information and shall retain the information for five years:

(A) the concentration of each metal listed in Table 3 of §312.43(b)(3) of this title (relating to Metal Limits) in the material;

(B) the following certification statement: "I certify, under penalty of law, that the Class A pathogen requirements in 30 TAC §312.82(a) and the vector attraction reduction requirement in (insert one of the vector attraction reduction requirements in 30 TAC §312.83(b)(1)-(8)) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and the vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment";

(C) a description of how the Class A pathogen requirements in §312.82(a) of this title are met; and

(D) a description of how one of the vector attraction reduction requirements in §312.83(b)(1)-(8) of this title is met.

(3) If the metal concentrations in §312.43(b)(3) of this title, the Class A pathogen requirements in §312.82(a) of this title, and the vector attraction reduction requirements in either §312.83(b)(9) or (10) of this title are met when bulk sewage sludge is applied to agricultural land, forest, a public contact site, or a reclamation site:

(A) The person who prepares the bulk sewage sludge shall develop the following information and shall retain the information for five years:

(i) the concentration of each metal listed in Table 3 of §312.43(b)(3) of this title in the bulk sewage sludge;

(ii) the following certification statement: "I certify, under penalty of law, that the pathogen requirements in 30 TAC §312.82(a) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."; and

(iii) a description of how the pathogen requirements in §312.82(a) of this title are met.

(B) The person who applies the bulk sewage sludge shall develop the following information and shall retain the information for five years.

(i) the following certification statement: "I certify, under penalty of law, that the management practices in 30 TAC §312.44 and the vector attraction reduction requirement in (insert either §312.83(b)(9) or (10)) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including fine and imprisonment";

(ii) a description of how §312.44 of this title (relating to Management Practices) are met for each site on which bulk sewage sludge is applied; and

(iii) a description of how the vector attraction reduction requirements in either §312.83(b)(9) or (10) of this title are met for each site on which bulk sewage sludge is applied.

(4) If the metal concentrations in §312.43(b)(3) of this title and the Class B pathogen requirements in §312.82(b) of this title are met when bulk sewage sludge is applied to agricultural land, forest, a public contact site, or a reclamation site:

(A) The person who prepares the bulk sewage sludge shall develop the following information and shall retain the information for five years:

(i) the concentration of each metal listed in §312.43(b)(3) (Table 3) of this title in the bulk sewage sludge;

(ii) the following certification statement: "I certify under, penalty of law, that the Class B pathogen requirements in 30 TAC §312.82(b) and the vector attraction reduction requirement in (insert one of the vector attraction reduction requirements in §312.83(b)(1)-(8) if one of those requirements is met) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements [and vector attraction reduction requirements if applicable] have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment";

(iii) a description of how the Class B pathogen requirements in §312.82(b) of this title are met; and

(iv) when one of the vector attraction reduction requirements in §312.83(b)(1) - (8) of this title is met, a description of how the vector attraction reduction requirement is met.

(B) The person who applies the bulk sewage sludge shall develop the following information and shall retain the information for five years:

(i) the following certification statement: "I certify, under penalty of law, that the management practices in 30 TAC §312.44, the site restrictions in §312.82(b)(3), and the vector attraction reduction requirements in (insert either §312.83(b)(9) or (10), if one of those requirements is met) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and site restrictions (and the vector attraction reduction requirements if applicable) have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment";

(ii) a description of how §312.44 of this title are met for each site on which bulk sewage sludge is applied;

(iii) a description of how the site restrictions in §312.82(b)(3) of this title are met for each site on which bulk sewage sludge is applied; and

(iv) when the vector attraction reduction requirement in either §312.83(b)(9) or (10) of this title is met, a description of how the vector attraction reduction requirement is met.

(5) If the requirements in §312.43(a)(2)(A) of this title are met when bulk sewage sludge is applied to agricultural land, forest, a public contact site, or a reclamation site:

(A) The person who prepares the bulk sewage sludge shall develop the following information and shall retain the information for five years:

(i) the concentration of each metal listed in §312.43(b)(1) (Table 1) of this title in the bulk sewage sludge;

(ii) the following certification statement: "I certify, under penalty of law, that the pathogen requirements in (insert either 30 TAC §312.82(a) or (b)) and the vector attraction reduction requirement in (insert one of the vector attraction reduction requirements in §312.83(b)(1) - (8) if one of those requirements is met) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements [and vector attraction

reduction requirements] have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment";

(iii) a description of how the pathogen requirements in either §312.82(a) or (b) of this title (relating to Pathogen Reduction) are met;

(iv) when one of the vector attraction requirements in §312.83(b)(1) - §312.83(b)(8) of this title is met, a description of how the vector attraction requirement is met.

(B) The person who applies the bulk sewage sludge shall develop the following information, retain the information in §312.47(a)(5)(B)(i) - (vii) of this title indefinitely, and retain the information in §312.47(a)(5)(B)(viii) - (xiii) of this title, for five years:

(i) the location, by either street address or latitude and longitude, of each site on which bulk sewage sludge is applied;

(ii) the number of hectares in each site on which bulk sewage sludge is applied;

(iii) the date and time bulk sewage sludge is applied to each site;

(iv) the cumulative amount of each metal (i.e., kilograms) listed in §312.43(b)(2) (Table 2) of this title in the bulk sewage sludge applied to each site, including the amount in §312.42(e) of this title;

(v) the amount of sewage sludge (i.e., metric tons) applied to each site;

(vi) the following certification statement: "I certify, under penalty of law, that the requirements to obtain information in 30 TAC §312.42(e) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the requirements to obtain information have been met. I am aware that there are significant penalties for false certification including fine and imprisonment";

(vii) a description of how the requirements to obtain information in §312.42(e) of this title (relating to General Requirements) are met;

(viii) the following certification statement: "I certify, under penalty of law, that the management practices in 30 TAC §312.44 have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices have been met. I am aware that there are significant penalties for false certification including fine and imprisonment";

(ix) a description of how §312.44 of this title are met for each site on which bulk sewage sludge is applied;

(x) the following certification statement when the bulk sewage sludge meets the Class B pathogen requirements in §312.82(b) of this title: "I certify, under penalty of law, that the site restrictions in §312.82(b)(3) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the site restrictions have been met. I am aware that there are significant penalties for false certification including fine and imprisonment";

(xi) a description of how the site restrictions in §312.82(b)(3) of this title are met for each site on which Class B bulk sewage sludge is applied;

(xii) the following certification statement when the vector attraction reduction requirement in either §312.83(b)(9) or (10) of this title is met: "I certify, under penalty of law, that the vector attraction reduction requirement in (insert either §312.83(b)(9) or (10)) has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector attraction reduction requirement has been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment"; and

(xiii) if the vector attraction reduction requirements in either §312.83(b)(9) or (10) of this title are met, a description of how the requirements are met.

(6) If the requirements in §312.43(a)(4)(B) of this title are met when sewage sludge is sold or given away in a bag or other container for application to the land, the person who prepares the sewage sludge that is sold or given away in a bag or other container shall develop the following information and shall retain the information for five years:

(A) the annual whole sludge application rate for the sewage sludge that does not cause the annual metal loading rates in §312.43(b)(4) (Table 4) of this title to be exceeded;

(B) the concentration of each metal listed in §312.43(b)(4) (Table 4) of this title in the sewage sludge;

(C) the following certification statement: "I certify, under penalty of law, that the management practice in 30 TAC §312.44(e), the Class A pathogen requirement in 30 TAC §312.82(a), and the vector attraction reduction requirement in (insert one of the vector attraction reduction requirements in §312.83(b)(1)-(8)) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practice, pathogen requirements, and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment";

(D) a description of how the Class A pathogen requirements in §312.82(a) of this title are met;

(E) a description of how one of the vector attraction requirements in §312.83(b)(1) - (8) of this title is met;

(b) Domestic septage. When domestic septage is applied to agricultural land, forest, or a reclamation site, the person who applies the domestic septage shall develop the following information and shall retain the information for five years:

(1) the location, by either street address or latitude and longitude, of each site on which domestic septage is applied;

(2) the number of acres in each site on which domestic septage is applied;

(3) the date and time domestic septage is applied to each site;

(4) the nitrogen requirement for the crop or vegetation grown on each site during a 365-day period;

(5) the rate, in gallons per acre per 365-day period, at which domestic septage is applied to each site;

(6) The following certification statement: "I certify, under penalty of law, that the pathogen requirements in (insert either §312.82(c)(1) or §312.82(c)(2)) and the vector attraction reduction requirements in (insert §312.83(b)(9), (10), or (12)) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment";

(7) a description of how the pathogen requirements in either §312.82(c)(1) or (2) of this title are met; and

(8) a description of how the vector attraction reduction requirements in §312.83(b)(9), (10), or (12) of this title are met.

§312.48. Reporting.

Unless otherwise specified by the commission, sludge management facilities shall submit the following information to the Enforcement Section of the Watershed Management Division and Regional Office:

(1) the information in §312.47 of this title (relating to Record Keeping) for the appropriate requirements by September 1 of each year; and

(2) the information in §312.47(a)(5)(A)(i) - (iv) of this title by September 1 of each year if:

(A) The sewage sludge does not meet the metal concentrations in §312.43(b)(3) of this title;

(B) Ninety percent or more of any of the cumulative metal loading rates in §312.43(b)(2) (Table 2) of this title is reached at a site; or

(C) Sewage sludge is applied to a site after 90% of any of the cumulative metal loading rates is reached at the site.

Adopted September 26, 1995

Effective October 13, 1995

§312.49. Appendix A - Procedure to Determine the Annual Whole Sludge Application Rate for a Sewage Sludge.

Section 312.43(a)(4)(B) of this title (relating to Metal Limits) requires that the product of the concentration for each metal listed in Table 4 of §312.43 of this title in sewage sludge sold or given away in a bag or other container for application to the land and the annual whole sludge application rate (AWSAR) for the sewage sludge not cause the annual metal loading rate for the metal in Table 4 of §312.43(b)(4) of this title to be exceeded. This appendix contains the procedure used to determine the AWSAR for a sewage sludge that does not cause the annual metal loading rates in Table 4 of §312.43(b)(4) of this title to be exceeded.

(1) The relationship between the annual metal loading rate (AMLR) for a metal and the annual whole sludge application rate (AWSAR) for a sewage sludge is shown in equation (1). (See Figure 7: §312.49(1).)

Figure 7: 30 TAC §312.49 (1)

$$\text{AMLR} = C \times \text{AWSAR} \times 0.001 \quad (1)$$

Where:

AMLR = Annual metal loading rate in kilograms per hectare per 365 day period.

C = Metal concentration in milligrams per kilogram of total solids (dry weight basis).

AWSAR = Annual whole sludge application rate in metric tons per hectare per 365 day period (dry weight basis).

0.001 = A conversion factor.

(2) To determine the AWSAR, equation (1) is rearranged into equation (2): (See Figure 8: §312.49(2).)

Figure 8: 30 TAC §312.49 (2)

$$\text{AWSAR} = \frac{\text{AMLR}}{C \times 0.001} \quad (2)$$

(3) The procedure used to determine the AWSAR for a sewage sludge is presented in Appendix-A. (See Figure 9: §312.49(3).)

Figure 9: 30 TAC §312.49 (3)

Appendix A

PROCEDURE:

1. Analyze a sample of the sewage sludge to determine the concentration for each of the metals listed in Table 4 of §312.43 of this title (relating to Metal Limits) in the sewage sludge.

2. Using the metal concentrations from Step 1 and the AMLRs from Table 4 of §312.43(b)(4) of this title (relating to Metal Limits), calculate an AWSAR for each metal using equation (2) above.
3. The AWSAR for the sewage sludge is the lowest AWSAR calculated in Step 2.

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§312.50. Storage and Staging of Sludge at Beneficial Use Sites.

(a) Except as provided in subsection (b) of this section, storage of sludge at a beneficial land application site shall not exceed 90 days. Storage is allowed only when the following requirements are carried out:

(1) Written authorization must be obtained from the executive director prior to construction of the storage area.

(2) The storage area must be operated and maintained to prevent surface water runoff and to prevent a release to ground water. Discharge of storm water or wastewater which has come into contact with sewage sludge is prohibited. The storage area shall be designed to collect such runoff. Any runoff collected during the storage of sewage sludge shall be disposed in a manner to prevent a release to ground water.

(3) The storage area shall be designed, constructed, and operated in a manner which protects public health and the environment.

(4) The storage area must be lined to prevent a release to ground water. Natural or artificial liners are required for leachate control. A natural liner or equivalent barrier of one foot of compacted clay with a permeability coefficient of 1×10^{-7} cm/sec or less, shall be provided. Various flexible synthetic membrane lining materials may be used in lieu of soil liners if prior written approval has been obtained from the executive director.

(5) The application shall outline measures to be taken to minimize vectors and to avoid public health nuisances such as odors.

(6) The storage area shall be fenced or other methods shall be used, if necessary to control access by humans or domestic animals.

(7) Berms or dikes shall be constructed to contain the waste without leakage.

(8) Liquid sludge must be stored in an enclosed vessel.

(9) Processing of sludge is prohibited unless a permit is obtained from the commission.

(b) Up to an additional ninety (90) days of storage will be allowed with the prior approval of the appropriate TNRCC regional office, for reasons associated with application area flooding, saturated soils, or frozen soils.

(c) Staging of sewage sludge on-site, prior to land application, is allowable without executive director approval. Staging of sewage sludge may only occur for a maximum of seven (7) calendar days.

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Repeal of: §312.41-312.49

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